

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-014685**Date Inspected:** 11-Jun-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	Bernie Docena and William Shervette			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	Orthotropic Box Girder		

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG L3W/L4W side plate 'C1' (900mm to 4880mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continue perform CJP groove (splice) welding fill to cover pass. The welder was observed perform automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042A-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 200 degree Fahrenheit using Miller Proheat 35 Induction Heating System located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) Bernie Docena was noted monitoring the welding parameters of the welder. QA also performed verification on the parameter and noted readings of 242 Amperes, 23.5 voltages and 320mm per minute travel speed which appear acceptable to contract requirements.

QA randomly observed ABF/JV qualified welders Rory Hogan (ID #3186) perform CJP groove (splice ) back welding fill pass on Orthotropic Box Girder (OBG) L2W/L3W side plate 'C2' outside (7920mm to 10555mm). The welder was observed back welding in the 4G (overhead) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3110-4. The welder was using a track mounted welder holder assembly that is remotely controlled. The joint being welded has the backing bar gouged using the Esab Plasma

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## WELDING INSPECTION REPORT

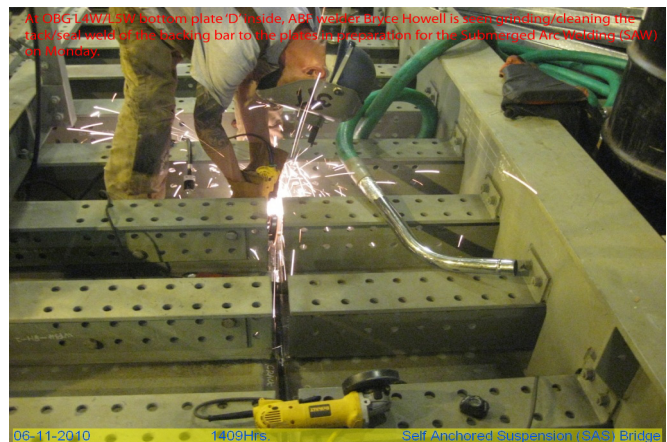
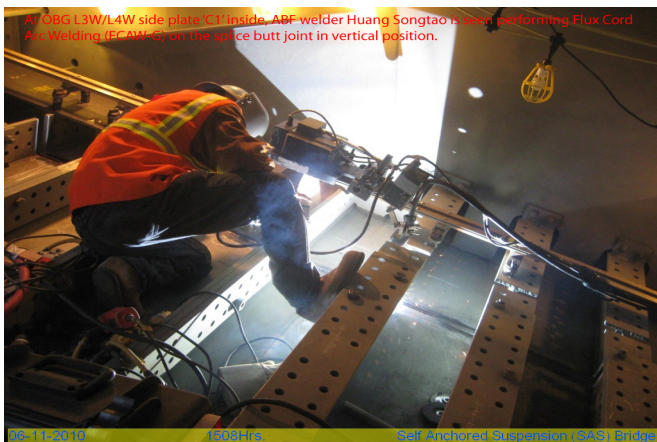
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Arc machine and was ground smooth. The gouged and ground splice butt joint was also Non Destructive Testing (NDT) tested using the Magnetic Particle Testing (MT). The splice joint was preheated and maintained to greater than 200 degree Fahrenheit using Miller Proheat 35 Induction Heating System located at the other side of the plate prior/during welding. The vicinity was also properly protected from wind and other climatic conditions. ABF Quality Control (QC) William Sherwood was noted monitoring the welding parameters of the welder. QA also performed verification on the parameter and noted readings of 245 Amperes, 24.4 voltages and 190mm per minute travel speed which appear acceptable to contract requirements. During the shift, the welder has completed back welding the whole length and after welding, they held the preheat for three hours as required.

At OBG L3E/L4E bottom plate 'D' outside, ABF welders Mitch Sittinger and Fred Kaddu were seen completely gouged the backing bar using the Esab plasma arc machine. The welders have started grinding the gouged groove of the backing bar removal and it was still ongoing at the end of the shift.

At OBG L1E/L2E and L2E/L3E bottom plates 'D' inside, this QA performed 10% Magnetic Particle Testing verification on the welded and repaired splice butt joints. QA was using Parker Contour Probe electromagnetic yoke with red magnetic powder as detecting media. There were no significant defects noted during the verification.



### Summary of Conversations:

As stated above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 227-5298, who represents the Office of Structural Materials for your project.

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**Inspected By:** Lizardo, Joselito

Quality Assurance Inspector

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**Reviewed By:** Levell, Bill

QA Reviewer